IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

OHTA, H. et al.

Atty. Ref.: 2589-15

Serial No. unknown

Group:

Filed: March 15, 2002

Examiner:

For: VACUUM CLEANER

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March 15, 2002

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

In order to place the above-identified application in better condition for examination, please amend the application as follows:

IN THE SPECIFICATION

Please substitute the following paragraphs in the specification for corresponding paragraphs previously presented. A copy of the amended specification paragraphs showing current revisions is attached.

Page 1, before the first line, please insert as a separate paragraph:

This application is the US national phase of international application PCT/JO01/06758 filed 6 August 2001, which designated the US.

IN THE CLAIMS

Please substitute the following amended claims for corresponding claims previously presented. A copy of the amended claims showing current revisions is attached.

1. A vacuum cleaner comprising a nozzle unit having a nozzle, an electric blower for sucking air, a suction air passage provided between the nozzle unit and the electric blower, and a cyclone dust collector, arranged in the suction air passage, for separating dust by making sucked air into a whiling stream,

wherein the cyclone dust collector comprises a dust collection chamber, having an inlet port through which to introduce the sucked air, for collecting separated dust, a lid, having an exhaust port through which to discharge the sucked air out of the dust collection chamber, for opening and closing the dust collection chamber, and an exhaust cylinder detachably fitted to the exhaust port.

2. A vacuum cleaner as claimed in claim 1, further comprising exhaust cylinder detecting means for detecting that the exhaust cylinder is located in a predetermined position, wherein the electric blower is controlled according to a result of detection by the exhaust cylinder detecting means.

3. A vacuum cleaner comprising a nozzle unit having a nozzle, an electric blower for sucking air, a suction air passage provided between the nozzle unit and the

electric blower, and a cyclone dust collector, arranged in the suction air passage, for separating dust by making sucked air into a whiling stream,

wherein the cyclone dust collector comprises a dust collection chamber, having an inlet port through which to introduce the sucked air, for collecting separate dust, an exhaust port through which to discharge the sucked air out of the dust collection chamber, and a shielding member with which a steam of air inside the dust collection chamber is made to collide to separate dust.

4. A vacuum cleaner as claimed in claim 3, further comprising an exhaust cylinder detachably fitted in the exhaust port, wherein the exhaust cylinder and the shielding member are integrally detachable from the dust collection chamber.

5. A vacuum cleaner as claimed in claim 4, wherein the exhaust cylinder is arranged above shielding member and substantially on a center line of the dust collection chamber.

6. A vacuum cleaner as claimed in claim 3, wherein the shielding member has a circular portion having a substantially circular shape and arranged inside the dust collection chamber with a gap secured from an inner wall thereof and a protruding portion formed so as to protrude downward from a periphery of the circular portion.

7. A vacuum cleaner as claimed in claim 6, wherein the shielding member has a plurality of shielding ribs arranged radially on a bottom surface of the circular portion so as to protrude downward therefrom.

8. A vacuum cleaner as claimed in claim 7, wherein, between two adjacent shielding ribs, a projection rib is formed so as to protrude form the inner wall of the dust collection chamber toward a center thereof.

9. A vacuum cleaner as claimed in claim 1, wherein the cyclone dust collector is integrally detachable from the suction passage.

10. A vacuum cleaner as claimed in claim 9, further comprising dust collector detecting means for detecting that the cyclone dust collector is located in a predetermined position, wherein the electric blower is controlled according to a result of detection by the dust collector detecting means.

11. A vacuum cleaner as claimed in claim 3, wherein the cyclone dust collector is integrally detachable from the suction passage.

12. A vacuum cleaner as claimed in claim 11, further comprising dust collector detecting means for detecting that the cyclone dust collector is located in a predetermined

position, wherein the electric blower is controlled according to a result of detection by the dust collector detecting means.

REMARKS

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made**."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Page 1, before the first line, please insert as a separate paragraph:

This application is the US national phase of international application PCT/JO01/06758 filed 6 August 2001, which designated the US.

IN THE CLAIMS

1. A vacuum cleaner comprising a nozzle unit having a nozzle, an electric blower for sucking air, a suction air passage provided between the nozzle unit and the electric blower, and a cyclone dust collector, arranged in the suction air passage, for separating dust by making sucked air into a whiling stream,

wherein the cyclone dust collector comprises a dust collection chamber, having an inlet port through which to introduce the sucked air, for collecting separated dust, a lid, having an exhaust port through which to discharge the sucked air out of the dust collection chamber, for opening and closing the dust collection chamber, and an exhaust cylinder detachably fitted to the exhaust port ~~for opening and closing the dust collection chamber, and an exhaust cylinder through which to discharge the sucked air~~.

2. A vacuum cleaner as claimed in claim 1, further comprising ~~wherein the~~ exhaust cylinder detecting means for detecting that the exhaust cylinder is located in a predetermined position, wherein the electric blower is controlled according to a result of detection by the exhaust cylinder detecting means ~~is detachable from the lid~~.

3. A vacuum cleaner ~~as claimed in claim 1, further~~ comprising a nozzle unit having a nozzle, an electric blower for sucking air, a suction air passage provided between the nozzle unit and the electric blower, and a cyclone dust collector, arranged in the suction air passage, for separating dust by making sucked air into a whiling stream,

wherein the cyclone dust collector comprises a dust collection chamber, having an inlet port through which to introduce the sucked air, for collecting separate dust, an exhaust port through which to discharge the sucked air out of the dust collection chamber, and a shielding member with which a steam of air inside the dust collection chamber is made to collide to separate dust ~~exhaust cylinder detecting means for detecting that the exhaust cylinder is located in a predetermined position, wherein the electric blower is controlled according to a result of detection by the exhaust cylinder detecting means~~.

4. A vacuum cleaner as claimed in claim ~~1~~3, further comprising an exhaust cylinder detachably fitted in the exhaust port, wherein the exhaust cylinder and the shielding member are integrally detachable from~~a shielding member with which a stream of air inside~~ the dust collection chamber ~~is made to collide to separate dust~~.

5. A vacuum cleaner as claimed in claim 4, wherein the ~~lid, the~~ exhaust cylinder~~,~~ is arranged above~~and the~~ shielding member and substantially on a center line of~~are integrally detachable from~~ the dust collection chamber.

6. A vacuum cleaner as claimed in claim ~~4~~3, wherein the ~~exhaust cylinder is arranged above the~~ shielding member has a circular portion having a~~and~~ substantially circular shape and arranged inside ~~on a center line of~~ the dust collection chamber with a gap secured from an inner wall thereof and a protruding portion formed so as to protrude downward from a periphery of the circular portion.

7. A vacuum cleaner as claimed in claim ~~4~~6, wherein the shielding member has a plurality of shielding ribs arranged radially on a bottom surface of the circular portion so as to protrude downward therefrom~~circular portion having a substantially circular shape and arranged inside the dust collection chamber with a gap secured from an inner wall thereof and a protruding portion formed so as to protrude downward from a periphery of the circular portion~~.

8. A vacuum cleaner as claimed in claim 7, wherein, between two adjacent ~~the shielding member has a plurality of~~ shielding ribs, a projection rib is formed so as to protrude form the inner wall of the dust collection chamber toward a center thereof~~arranged radially on a bottom surface of the circular portion so as to protrude downward therefrom~~.

9. A vacuum cleaner as claimed in claim ~~8~~1, wherein the cyclone dust collector is integrally detachable from the suction passage.~~, between two adjacent~~

~~shielding ribs, a projection rib is formed so as to protrude from the inner wall of the dust collection chamber toward a center thereof~~

10. A vacuum cleaner as claimed in claim ~~1~~9, further comprising ~~wherein the cyclone~~ dust collector detecting means for detecting that the cyclone dust collector is located in a predetermined position, wherein the electric blower is controlled according to a result of detection by the dust collector detecting means~~integrally detachable from the suction passage~~.

11. A vacuum cleaner as claimed in claim ~~10~~3, wherein the cyclone dust collector is integrally detachable from the suction passage.~~further comprising dust collector detecting means for detecting that the cyclone dust collector is located in a predetermined position, wherein the electric blower is controlled according to a result of detection by the dust collector detecting means.~~

12. A vacuum cleaner as claimed in claim 11, further comprising dust collector detecting means for detecting that the cyclone dust collector is located in a predetermined position, wherein the electric blower is controlled according to a result of detection by the dust collector detecting means.